

APPENDIX D  
Low-Level Burial Grounds (LLBG) Part A Revision History  
(Mixed Waste Trenches 31 & 34 are a part of the LLBG)

Revision 0, submitted November 6, 1985, contained the *RCRA Part B Permit Application Low-Level Burial Grounds and Retrievable Storage* and included a Part A, Form 3, which identified the LLBG and the retrievable storage units.

The LLBG were classified as landfills (D81) and the retrievable storage units were classified as container storage (S01). Reserved areas were included for future disposal. The following locations were included in the 1985 submittal:

- LLBG: 218-W-2A, 218-W-3AE, 218-E-10, 218-W-5, 218-W-4C, 218-W-3A, 218-E-12B, 218-C-9
- Reserved: 218-W-6, 218-E-10B
- Retrievable Storage Units: 218-W-4C, 218-W-3A
- Individual trench locations within these burial grounds were not identified.

Revision 1, submitted August 15, 1987, was issued to incorporate comments received from the Washington State Department of Ecology (Ecology). The 1985 Part A was divided into two Part A, Form 3's, which consisted of the 'LLBG' and the 'retrievable storage units,' without designating specific locations for the burial grounds.

Revision 2, submitted in November 1987, submitted both of the two Part A, Form 3's to incorporate the required signature process in which the U.S. Department of Energy, Richland Operations Office (DOE-RL) signed as owner/operator and Westinghouse Hanford Company (WHC) signed as co-operator. The retrievable storage units also were reclassified as landfills (D81) at the request of the U.S. Environmental Protection Agency (EPA) and Ecology (Ecology letter October 14, 1987). Specific burial grounds were named only for the retrievable storage units.

Revision 3, submitted May 19, 1988, combined the two Part A, Form 3's into one. Revision 3 of the Part A consisted of LLBG, retrievable storage units, and a future mixed waste disposal unit. Revision 3 included graphic representations of the trenches and identified the following LLBG:

<u>200 West Area</u>	<u>200 East Area</u>
218-W-3A	218-E-10
218-W-3AE	218-E-12B.
218-W-4B	
218-W-4C	
218-W-5	
218-W-6	

Revision 3 also had the following changes:

Deleted:	218-W-2A, 218-E-10B, and 218-C-9
Added:	218-W-4B.

The 218-W-2A and 218-C-9 Burial Grounds were deleted, as it was determined that mixed waste was not disposed in these sites [*Consent Agreement and Compliance Order* between Ecology and the U.S. Department of Energy, October 1, 1986 (Ecology 1986)]. The 218-E-10B Burial Ground was deleted because the area was designated for another use before any waste disposal occurred. The 218-W-4B Burial Ground was added because dangerous waste is contained in caisson alpha 4.

Revision 4, submitted October 18, 1989, had the following changes.

- The 'date operation began' was changed from 1944 to 1960 to reflect the earliest date that the oldest burial ground (218-E-10) began receiving waste.

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- Waste numbers F020, F021, F022, F023, F026, and F027 were deleted as these waste types are not put into the LLBG.
- Following the addition of the decommissioned Shippingport reactor pressure vessel and the U.S. Navy defueled reactor compartments, the estimated annual quantity of waste for waste number D008 was increased from 100,000 pounds to 18,000,000 pounds and for waste number WT01 from 800,000 to 18,800,000 pounds.
- The burial ground number within the caption of a photograph of a "Typical Radioactive Retrievable Storage Facility--Liquid Organics" was changed from the "218-W-46/200 W Area" to the "218-W-4C/200 W Area."
- The President of WHC was changed from William M. Jacobi to John E. Nolan.

Revision 5, submitted October 20, 1989, had the following changes.

- The estimated annual quantity of waste for waste number D008 was reduced from 18,000,000 pounds to 2,000,000 pounds. Based on discussions and correspondence among the U.S. Navy, the EPA, and Ecology, the quantity of lead (16,000,000 pounds) in defueled reactor compartments was considered shielding and was designated as WT01, a state-only waste.
- In addition, no extraction procedure toxicity testing had been performed on reactor compartments; therefore, the defueled reactor compartments were manifested by the U.S. Navy as WT01 only.

Revision 6, submitted August 16, 1990, had the following changes.

- Estimated annual quantity of waste for dangerous waste number D008 (lead) was increased from "2,000,000" pounds to "18,000,000" pounds. This increase accounted for lead shielding contained in defueled reactor compartments.
- The description of dangerous wastes (Section IV.E.) was changed to include a description of the metallic lead shielding contained in defueled reactor compartments disposed in trench 94.

Revision 7, submitted November 4, 1994, had the following changes.

- Dangerous waste number F039 (multi-source leachate) was added to reflect leachate generation from the startup of trench 31.
- Dangerous waste numbers P035, P079, U231, U241, U242, and WC01 were removed per the revised Washington Administrative Code (WAC) 173-303.
- Section III.C. "Processes" was changed to reflect current operations at the LLBG.
- The President of WHC was changed from Roger C. Nichols to A. LaMar Trego.

Revision 8, submitted September 30, 1996, had the following changes.

- Project Hanford Management Contract changed to Fluor Daniel Hanford, Inc.
- Part A, Form 3, was revised to reflect the date that Ecology was given authorization to regulate the dangerous waste portion of mixed waste as identified in 52 Federal Register 35556.
- A new design capacity was identified based on waste forecasts with no lateral expansion of the various burial ground boundaries. Dangerous waste numbers WC02, U175, and P025 were removed per WAC 173-303. The estimated annual quantity of waste was consolidated into one number, "160,000,000" kilograms for all dangerous waste numbers.
- Sections III.C, IV.E., photographs and graphics were updated to reflect current operations.

Revision 9, submitted March 4, 1997, had the following changes.

- Comments from Ecology on Revision 8, of the Part A, Form 3, were incorporated.
- The Part A, Form 3, was revised to reflect the date of regulation of the dangerous waste component of mixed waste as August 19, 1987.



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- Process code S01 (storage container) was added with a total process design capacity of 10,000,000 liters. The greater-than-90-day container storage is within the lined mixed waste disposal trenches 31 and 34 of the 218-W-5 Burial Ground.
- Dangerous waste numbers D004 through D043, all "U" and "P," and F001 through F005, and F028 were added under process code S01.
- Sections III.C and IV.E of the Part A, Form 3, were revised to include a discussion on process code S01.
- Graphics were updated to reflect current operations and the August 19, 1987 date of regulation of the dangerous waste component of mixed waste.

Revision 10, submitted July 25, 1997, had the following changes.

- Updated text in Section IV.E. to account for dangerous waste numbers D001 through D003 being listed for disposal (D81) in Section IV.A.
- Hanford Site Coordinate System points corrected on 218-E-12B Burial Ground Site Plan.
- Call out for mixed fission product caissons corrected on 218-W-4B Burial Ground Site Plan.
- Updated trenches filled with low-level waste on 218-W-4C Burial Ground Site Plan. Following a record search on post-August 19, 1987 mixed waste, the eastern portion of trench 58 was determined not to contain regulated mixed waste.

Revision 10 was not approved.

Revision 11, submitted December 23, 1998, had the following changes.

- The discussion in Section III.C have been removed for process codes D81 (disposal) and S01 (container storage) and all discussion in Section IV.E because the Part A, Form 3, instructions do not require this information.
- Removed two and added 70 new dangerous waste numbers that either had been removed or added to the federal and/or state regulations or are waste numbers that potentially could be managed at the LLBG.
- Updated the 200 West Area drawing, various burial ground trench drawings, and included a new photograph of the mixed waste trenches (trench 31 and 34).

Revision 11 was not approved.

Revision 12, submitted July 1, 2002, had the following changes.

- Additional dangerous waste numbers were added based on updates to WAC 173-303 and 40 Code of Federal Regulations (CFR) 261. The following dangerous waste numbers were added to WAC 173-303-9903 in 1998:
  - U numbers: U271, U278, U279, U280, U364, U367, U372, U373, U387, U389, U394, U395, U404, U409, U410, and U411
  - P numbers: P127, P128, P185, P188, P189, P190, P191, P192, P194, P196, P197, P198, P199, P201, P202, P203, P204, and P205
  - WSC2, F006, F007, F008, F009, F010, and F011 are waste numbers that might be managed in the future.
- Updated site maps and drawings
- Updated photograph for trench 94.

Revision 13, submitted August 15, 2007, has the following changes.

- The Part A Form was revised to meet the new format in accordance with WAC 173-303-803.
- Dangerous waste number "W001" was deleted and replaced with "WPCB" in accordance with WAC 173-303-9904.
- Twenty-four (24) dangerous waste numbers have been deleted from WAC 173-303-9903 "Discarded Chemical Products List" in accordance with 40 CFR 261.1 "Identification and Listing of Hazardous Waste" and WAC 173-303-9903 "Discarded Chemical Products List." The dangerous waste

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numbers that have been deleted are U212, U230, U242, U277, U365, U366, U370, U376 through U379, U381 through U386, U390 through U393, U396, U400, and P107.

- The figures and photographs were revised to remove the “official use only” information as required per U.S. Department of Energy requirements.
- Added language for treatment activities that will be performed in 218-W-5 Burial Ground trenches 31 and 34 to meet land disposal restriction in accordance with 40 CFR 268.45, Table 1.

Revision 14, submitted September 22, 2008, transferred the “Co-Operator” from Fluor Hanford, Inc. to the Plateau Remediation Contractor, CH2M HILL Plateau Remediation Company, on October 1, 2008.